Quality is more than a word

Temperature Chamber Series



CAT.NO.E94190-Q1407

Ideal for numerous applications ranging from high-temperature tests to drying and heat processing.

The "Perfect Oven" epitomizes the features and performance of the ideal oven.
It is a versatile product, conducting high-temperature tests, but also drying and heat treatment for production lines, with unrivaled reliability and performance.
The 56 models offered by ESPEC precisely answers the various needs of our customers.





MODEL VARIATION

PV(H) +200℃/+300℃ (+392°F/+572°F)

Temperature Chamber (Vertical type)



PH(H) +200℃/+300℃ (+392°F/+572°F)

Temperature Chamber (Horizontal type)



STPH +500℃ (+932°F)

Ultra-High Temperature Chamber



SSPH +700℃ (+1292°F)

Ultra-High Temperature Chamber

OVEN SERIES FOR VARIOUS APPLICATIONS

ST(H)

DESK-TOP TYPE HIGH-TEMP CHAMBER

+200℃/+300℃
15L/28L/39L



VAC

VACUUM OVEN

+200℃
933×10² to 1×10² Pa



LC

CONVECTION OVEN

+200℃/+250℃
90L/165L/360L



LCV

VACUUM OVEN

+200℃
0 to −101kPa (Gauge)



SPH(H) +200℃/+300℃ (+392°F/+572°F)

Temperature Chamber with Explosion Vent



IPH(H) +200℃/+300℃ (+392°F/+572°F)

Anaerobic Temperature Chamber



GPH(H) +200℃/+300℃ (+392°F/+572°F)

Temperature Chamber with Rotating Specimen Rack



PV(H)C

CLEAN OVEN

+200℃/+300℃/+350℃
178L/380L/678L
Class 5



(H)LKS

LARGE VOLUME TEMPERATURE CHAMBER

+200℃/+300℃
2250L/4050L



Control operation

Two types of program instrumentation to suit different applications. Standard Instrumentation and M-Instrumentation.



● Constant operation mode



● Alarm



User-friendly Standard Instrumentation

Standard Instrumentation features programmed operation with operational settings such as constant mode and automatic start/stop. Suitable for heat treatment, drying, and similar production-line applications.

M-Instrumentation features programs with up to 20 steps

Suitable for a range of applications from temperature-characteristics testing to heat treatment and drying. Programmed operation now allows storing ten patterns, each up to twenty steps. Provides a wide range of functions, including temperature ramp settings and a maximum of 999 repeat cycles.

Easy setup with on-screen display

Employs interactive settings for ease of use. Text can be displayed and entered in Japanese or English alphanumeric characters.

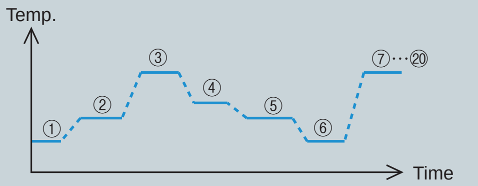
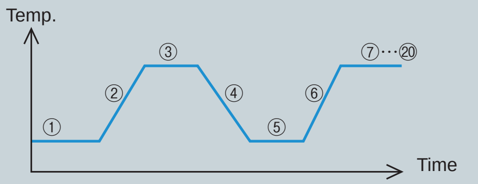
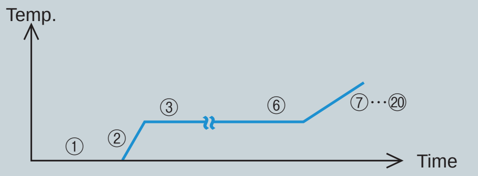
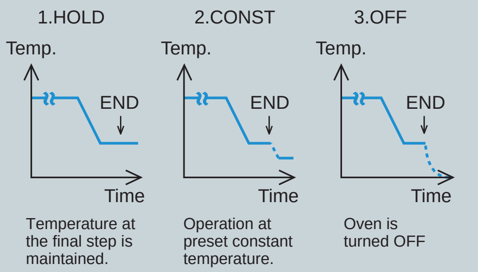
Four optional functions

Four optional functions, namely, air flow adjuster, automatic damper, integrating hour meter, and calendar timer can be included in the instrumentation. These functions can be set by using main panel instrumentation keys.

Interface (Option)

Interface for device communication can be selected between RS-485, GPIB and RS-232C.

Examples of Programmed Operation (M-Instrumentation)

Step program*	
Ramp program*	
Automatic start*	
End of program (selection)	

* The number of repetitions of a program can be preset between 1 and 999. Stepwise damper setting is possible using an optional automatic damper. Guarantee soak function, whereby the timer is used to maintain a preset temperature for a preset length of time, can also be performed.

Temperature Indicator-controller

Instrumentation	Standard Instrumentation	M-Instrumentation
Operation mode	Constant operation, programmed operation and remote operation through communication interface	
Setting and indication ranges	Temperature: 0 to+210℃ (+32 to +410°F) 0 to+310℃ (+32 to +590°F) 0 to+510℃ (+32 to +950°F) 0 to+710℃ (+32 to +1310°F)	
	Time: 0 to 9999 hours 59 minutes	
Setting resolution	Temperature: 1°C Time: 1 minute	
Programming function	One-pattern, two-steps program entry is possible.	10-patterns, 20-steps program entry is possible.
	Ramp setting: Step or ramp temperature changes possible. **OFF mode**: The oven can be turned off during programmed operation. **Automatic start**: Timed start-up is possible by setting the first step to 0℃ (i.e. oven OFF). **Automatic stop**: Timed termination is possible by setting the oven to turn OFF upon completion of a program. **End mode**: The operating status upon completion of a program can be set to HOLD, CONST or OFF. **Repetition**: Up to 999 times.	
Auxiliary functions	Input burnout detection Upper and lower temperature limit alarm Upper deviation limit temperature alarm Buzzer alarm Automatic overheat protection Trouble indication Alarm indication Self-diagnostic Guarantee soak Power failure recovery selection Power failure protection Quick timer Quick operation	

PV(H)

+200℃／+300℃

TEMPERATURE CHAMBER (Vertical type)



*Cable port and N_2 gas injector are options.



Test area

● A space-saving upright chamber

Components are incorporated into the top portion of the vertical chamber, reducing installation space by 20~60% (comparison with conventional model). Increases productivity on the production line, and saves laboratory space.

● Seamless door interior structure

Door back is a single molded structure preventing heat losses from loose joints.

● Large processing capacity

Since the floor and shelves of the chamber have been greatly reinforced, a large amount of specimens can be loaded and processed at the same time. The sliding shelves ensure easy handling of the specimens.

● Excellent heating performance

Heating performance is greatly enhanced so that the chamber temperature remains constant even if the ventilation damper is opened. (at +20℃ ambient temperature)

SPECIFICATIONS

Model		PV-212	PV-222	PV-232	PV-332	PVH-212	PVH-222	PVH-232	PVH-332
System		Forced hot-air circulation / ventilation system							
Performance *1	Temperature range *2	Ambient temp. +20℃ (+68°F) to +200℃ (+392°F)				Ambient temp. +20℃ (+68°F) to +300℃ (+572°F)			
	Temperature fluctuation *2	±0.2℃ at +100℃ (+212°F), +200℃ (+392°F)				±0.2℃ at +100℃ (+212°F), +200℃ (+392°F), ±0.3℃ at +300°C (+572°F)			
	Temperature uniformity *2	±1.0℃ at +100 (+212°F), ±2.0℃ at +200℃ (+392°F)				±1.0℃ at +100℃ (+212°F), ±2.0℃ at +200℃ (+392°F), ±3.0℃ at +300°C (+572°F)			
	Temperature heat-up time	Ambient temp. to +200℃ (+392°F) within 40 min.				Ambient temp. to +300℃ (+572°F) within 60 min.			
Construction	Exterior material	Cold rolled rust-proof steel plate, Melamine resin coating							
	Interior material	Stainless steel plate							
	Insulation material	Glass wool							
	Heater	Sheathed heater							
	Air circulator	Stainless steel sirocco fan							
	Damper	Circulation/ Ventilation (manual switching)							
Fittings		Power cable (approx 2m from chamber), Specimen power supply control terminals (relay contact is opened/stop during malfunction. Voltage capacity 250V AC 3A)							
Inside dimensions W×H×Dmm (in)		600×600×600 (23.6×23.6×23.6)	600×900×600 (23.6×35.4×23.6)	600×1200×600 (23.6×47.2×23.6)	800×1200×800 (31.5×47.2×31.5)	600×600×600 (23.6×23.6×23.6)	600×900×600 (23.6×35.4×23.6)	600×1200×600 (23.6×47.2×23.6)	800×1200×800 (31.5×47.2×31.5)
Outside dimensions *3 W×H×Dmm (in)		770×1200×925 (30.3×47.2×36.4)	770×1500×925 (30.3×59×36.4)	770×1800×925 (30.3×70.9×36.4)	1030×1800×1145 (40.6×70.8×45.1)	770×1200×925 (30.3×47.2×36.4)	770×1500×925 (30.3×59×36.4)	770×1800×925 (30.3×70.9×36.4)	1030×1800×1145 (40.6×70.8×45.1)
Capacity (L)		216	324	432	768	216	324	432	768
Weight (kg)		165	190	210	325	165	190	210	325
Allowable ambient conditions		Temperature: 0 to +40℃ (+32 to +104°F) Humidity: to 75%rh							
Utility requirements	Power supply (Voltage fluctuation: ±10% of rated value)	200 / 220 / 230 / 240V AC 1ϕ 50/60Hz		200 / 220V AC 3ϕ 3W 50/60Hz		200 / 220 / 230 / 240V AC 1ϕ 50/60Hz	200 / 220V AC 3ϕ 3W 50/60Hz		
				—	380V AC 3ϕ 4W 50Hz		—		380V AC 3ϕ 4W 50Hz
	Max. power consumption (kVA)	4.0	4.8	5.8	6.8	4.0	5.8	6.2	8.8

*1 Values assume circulatory operation with no specimens at an ambient temperature of +23℃ ±5.
*2 Conforms to Japan Testing Machinery standard K05:2000.
*3 Excluding protrusions.

Shelf pitch, quantity and load resistance

Model	Shelf pitch	Shelves	Shelf load resistance *1 *2	Chamber total load resistance *1
PV(H)-212	50mm	11	25kg	200kg
PV(H)-222		17		
PV(H)-232		23		
PV(H)-332	80mm	14	45kg	

*1 Including shelf weight
*2 Equally distributed load

ACCESSORIES

- Shelf (stainless steel wire) 2
  (stainless steel plate for type 332)
- Shelf bracket (stainless steel) .... 2 sets (4)
- Cartridge fuse 2
- User's manual .... 1 set

SAFETY DEVICES

- Leakage breaker
- Electrical compartment door switch
- Door switch
- Thermal fuse
- Temperature switch for air circulator
- Heater wiring breaker
- Upper and lower temperature limit alarm (built inside temperature controller)
- Overheat protector
- Cartridge fuse
- Specimen power supply control terminal

PH(H)

+ 200℃ ／ + 300℃

TEMPERATURE CHAMBER (Horizontal type)

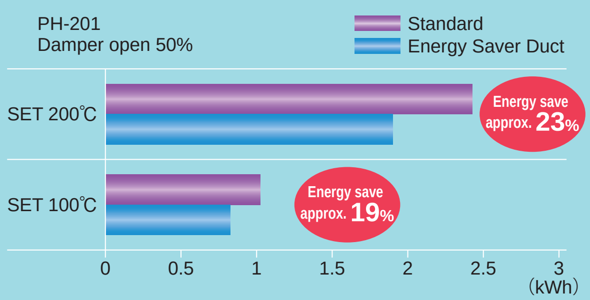


*N_2 gas injector unit is option.



Test area

Energy Saver Duct



High performance chamber

A temperature-indication controller with an advanced PID operation, and an originally developed chamber configuration provide unmatched oven performance. Temperature uniformity, temperature constancy, temperature heat-up rate, and temperature recovery time are performed with the upmost reliability.

Safety measures

Triple safety mechanisms are employed for excessive overheating.

Wide model selection

We provide a total of 16 ovens with combination of temperature range, capacity, and instrumentation.

Energy Saver Duct (Option)

Energy saving approximately 20% by heat recycling from exhaust through the duct to maintain temperature while damper opens.

SPECIFICATIONS

	Model	PH-102	PH-202	PH-302	PH-402	PHH-102	PHH-202	PHH-302	PHH-402
	System	Forced hot-air circulation / ventilation system							
Performance *1	Temperature range *2	Ambient temp. +20℃ (+68°F) to +200℃ (+392°F)				Ambient temp. +20℃ (+68°F) to +300℃ (+572°F)			
Performance *1	Temperature fluctuation *2	±0.1℃ at +100℃ (+212°F) ±0.2℃ at +200℃ (+392°F)		±0.2℃ at +100℃ (+212°F) ±0.4℃ at +200℃ (+392°F)		±0.1℃ at +100℃ (+212°F) ±0.2℃ at +200℃ (+392°F) +300℃ (+572°F)		±0.2℃ at +100℃ (+212°F) ±0.4℃ at +200℃ (+392°F) ±0.6℃ at +300℃ (+572°F)	
Performance *1	Temperature uniformity *2	±0.5℃ at +100℃ (+212°F) ±1.5℃ at +200℃ (+392°F)		±1.0℃ at +100℃ (+212°F) ±2.0℃ at +200℃ (+392°F)		±0.5℃ at +100℃ (+212°F) ±1.5℃ at +200℃ (+392°F) ±2.5℃ at +300℃ (+572°F)		±1.0℃ at +100℃ (+212°F) ±2.0℃ at +200℃ (+392°F) ±3.0℃ at +300℃ (+572°F)	
Performance *1	Temperature heat-up time	Ambient temp. to +200℃ (+392°F)				Ambient temp. to +300℃ (+572°F)			
		within 40 min.			within 60 min.	within 60 min.			within 70 min.
Construction	Exterior material	Cold rolled rust-proof steel plate, Melamine resin coating							
Construction	Interior material	Stainless steel plate							
Construction	Insulation material	Glass wool							
Construction	Heater	Iron chrome strip wire heater							
Construction	Air circulator	Stainless steel propeller fan							
Construction	Damper	Circulation/ Ventilation (manual switching)							
	Fittings	Power cable (approx 2m from chamber), Specimen power supply control terminals (relay contact is opened/stop during malfunction. Voltage capacity 250V AC 3A)							
	Inside dimensions W×H×Dmm (in)	450×450×450 (17.7×17.7×17.7)	600×600×600 (23.6×23.6×23.6)	800×800×800 (31.5×31.5×31.5)	1000×1000×1000 (39.4×39.4×39.4)	450×450×450 (17.7×17.7×17.7)	600×600×600 (23.6×23.6×23.6)	800×800×800 (31.5×31.5×31.5)	1000×1000×1000 (39.4×39.4×39.4)
	Outside dimensions *3 W×H×Dmm (in)	1040×820×635 (41×32.3×25)	1190×970×785 (46.9×38.2×30.9)	1500×1210×1065 (59.1×47.6×41.9)	1730×1480×1275 (68.1×58.3×50.2)	1040×820×635 (41×32.3×25)	1190×970×785 (46.9×38.2×30.9)	1500×1210×1065 (59.1×47.6×41.9)	1730×1480×1275 (68.1×58.3×50.2)
	Capacity (L)	91	216	512	1000	91	216	512	1000
	Weight (kg)	95	130	240	430	95	130	240	430
	Allowable ambient conditions	Temperature: 0 to +40℃ (+32 to +104°F) Humidity: to 75%rh							
Utility requirements	Power supply (Voltage fluctuation: ±10% of rated value)	200 / 220 / 230 / 240V AC 1φ 50/60Hz		200 / 220V AC 3φ 3W 50/60Hz, 380V AC 3φ 4W 50Hz		200 / 220 / 230 / 240V AC 1φ 50/60Hz		200 / 220V AC 3φ 3W 50/60Hz, 380V AC 3φ 4W 50Hz	
Utility requirements	Max. power consumption (kVA)	2.0	2.7	5.0	6.5	2.7	3.8	6.5	9.5

*1 Values assume circulatory operation with no specimens at an ambient temperature of +23℃ ±5.
*2 Conforms to Japan Testing Machinery standard K05:2000.
*3 Excluding protrusions.

Shelf pitch, quantity and load resistance

Model	Shelf pitch	Shelves	Shelf load resistance *1 *2	Chamber total load resistance *1
PH(H)-102	50mm	8	20kg	50kg
PH(H)-202		11		
PH(H)-302	80mm	9		60kg
PH(H)-402	140mm	6	40kg	100kg

*1 Including shelf weight
*2 Equally distributed load

ACCESSORIES

- Shelf (stainless steel wire for type102･202) ············ 2
  (stainless steel punched plate for type 302･402) ········· 2
- Shelf bracket (stainless steel) ························ 2 sets (4)
- Cartridge fuse ·· 2
- User's manual ·· 1 set

SAFETY DEVICES

- Leakage breaker
- Electrical compartment door switch
- Door switch (type 402 only)
- Thermal fuse
- Temperature switch for air circulator (except type 402)
- Air circulator overload relay (type 402 only)
- Heater wiring breaker
- Reverse-prevention relay
- Upper and lower temperature limit alarm
  (built inside temperature controller)
- Overheat protector
- Cartridge fuse
- Specimen power supply control terminal

STPH

+ 500℃

ULTRA-HIGH TEMPERATURE CHAMBER



Temperature control to ＋500℃

Effective temperature range of (ambient temp. ＋) 20℃ to ＋500℃. The chamber can be used for a variety of applications, including tests of viability under high-temperatures and temperature resistance.

Door equipped with a single-action lever

The door can be firmly locked by an easy-to-use single-action lever. It prevents accidents from unlocked doors.



SPECIFICATIONS

Model		STPH-102	STPH-202
System		Forced hot-air circulation / ventilation system	
Performance *1	Temp. range *2	Ambient temp.＋20℃ (＋68°F) to ＋500℃ (＋932°F)	
	Temp. fluctuation *2	±0.5℃	
	Temp. uniformity *2	±0.8℃ at ＋100℃ (＋212°F) ±1.8℃ at ＋200℃ (＋392°F) ±2.8℃ at ＋300℃ (＋572°F) ±3.8℃ at ＋400℃ (＋752°F) ±4.8℃ at ＋500℃ (＋932°F)	
	Temp. heat-up time	Ambient temp. to ＋500℃ (＋932°F) within 60min.	
Construction	Interior	Stainless steel plate	
	Insulation	Glass wool, MG wool	
	Heater	Iron chrome strip wire heater	
	Air circulator	Stainless steel propeller fan	
	Damper	Circulation/ Ventilation (manual switching)	
Fittings		Power cable (approx 2m from chamber), Specimen power supply control terminals Electrical compartment cooling fan	
Inside dimensions W×H×Dmm (in)		450×450×450 (17.7×17.7×17.7)	600×600×600 (23.6×23.6×23.6)
Outside dimensions W×H×Dmm (in) *3		1190×1110×795 (46.9×43.7×31.3)	1340×1260×945 (52.8×49.6×37.2)
Capacity (L)		91	216
Weight (kg)		190	250
Allowable ambient conditions		Temp.: 0 to ＋40℃ (＋32 to ＋104°F) Humid.: to 75%rh	
Utility requirements	Power supply (±10% of rated value)	200 / 220V AC 3φ 50/60Hz, 380V AC 3φ 4W 50Hz	
	Max. power consumption	6.5 kVA	8.3 kVA

*1 Values assume circulatory operation with no specimens at an ambient temperature of ＋23℃ ±5.

*2 Conforms to Japan Testing Machinery standard K05:2000.

*3 Excluding protrusions.

ACCESSORIES

- Shelf (stainless steel wire) 2
- Shelf bracket (stainless steel) .... 2 sets (4)
- Cartridge fuse 2
- User's manual .... 1 set

SAFETY DEVICES

- Leakage breaker
- Electrical compartment door switch
- Thermal fuse
- Temperature switch for air circulator
- Electrical compartment thermal switch
- Heater wiring breaker
- Upper and lower temperature limit alarm (built inside temperature controller)
- Overheat protector
- Cartridge fuse
- Specimen power supply control terminal

SSPH

＋700℃

ULTRA-HIGH TEMPERATURE CHAMBER

Saving-energy insulated structure

Ceramic fiber and aluminium foil are used as insulation materials. It increases effective insulation and prevents heat loss, thus saving energy.

A Double seal gasket configuration

A gasket made of stainless steel fiber and a leaf spring are used to form a double seal between the door and the chamber. Prevents heat radiation on door.

Door equipped with a single-action lever

The door can be firmly locked by an easy-to-use single-action lever.





ACCESSORIES

- Shelf (stainless steel wire) 2
- Shelf bracket (stainless steel) .... 2 sets (4)
- Cartridge fuse 2
- User's manual .... 1 set

SAFETY DEVICES

- Leakage breaker
- Electrical compartment door switch
- Thermal fuse
- Temperature switch for air circulator
- Air circulator rotation detector
- Electrical compartment thermal switch
- Heater wiring breaker
- Upper and lower temperature limit alarm (built inside temperature controller)
- Overheat protector
- Cartridge fuse
- Specimen power supply control terminal

SPECIFICATIONS

Model		SSPH-102	SSPH-202
System		Forced hot-air circulation / ventilation system	
Performance *1	Temp. range *2	＋100 to ＋700℃ (＋212 to ＋1292°F)	
	Temp. fluctuation *2	±0.5℃ at ＋100 to ＋500℃ (＋212 to ＋932°F) ±0.8℃ at ＋501 to ＋700℃ (＋933 to ＋1292°F)	
	Temp. uniformity *2	±0.8℃ at ＋100℃ (＋212°F) ±2.8℃ at ＋300℃ (＋572°F) ±4.8℃ at ＋500℃ (＋932°F) ±7.0℃ at ＋700℃ (＋1292°F)	
	Temp. heat-up time	Ambient temp. to ＋700℃ (＋1292°F) within 120min.	Ambient temp. to ＋700℃ (＋1292°F) within 160min.
Construction	Interior	Stainless steel plate	
	Insulation	Glass wool, Ceramic fiber	
	Heater	Iron chrome strip wire heater	
	Air circulator	Stainless steel propeller fan	
	Damper	Circulation/ Ventilation (manual switching)	
Fittings		Power cable (approx 2m from chamber), Specimen power supply control terminals Electrical compartment cooling fan	
Inside dimensions W×H×Dmm (in)		450×450×450 (17.7×17.7×17.7)	600×600×600 (23.6×23.6×23.6)
Outside dimensions W×H×Dmm (in) *3		1190×1110×795 (46.9×43.7×31.3)	1340×1260×945 (52.8×49.6×37.2)
Capacity (L)		91	216
Weight (kg)		250	330
Allowable ambient conditions		Temp.: 0 to ＋40℃ (＋32 to ＋104°F) Humid.: to 75%rh	
Utility requirements	Power supply (±10% of rated value)	200 / 220V AC 3φ 50/60Hz, 380V AC 3φ 4W 50Hz	
	Max. power consumption	8.3 kVA	9.5 kVA

*1 Values assume circulatory operation with no specimens at an ambient temperature of ＋23℃ ±5.

*2 Conforms to Japan Testing Machinery standard K05:2000.

*3 Excluding protrusions.

SPH(H)

+200℃/+300℃

TEMPERATURE CHAMBER WITH EXPLOSION VENT



Temperature chamber with Explosion Vent

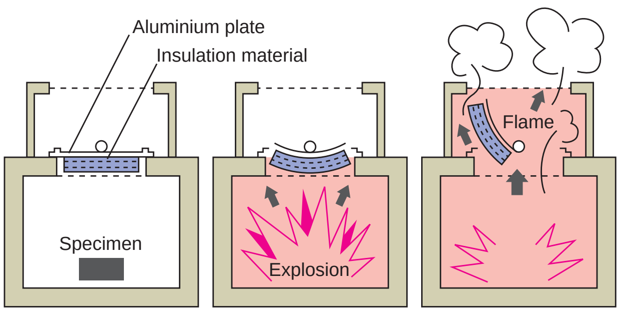
This temperature chamber is suitable for drying and heat-treatment of flammable synthetic resins or volatile solvents. It is equipped with an explosion vent which releases explosion and a safety door to ensure security.

Door equipped with a single-action lever

The door can be securely locked by an easy-to-use single-action lever. Even if the operator accidentally turns on the power when door is unlocked, the door lock detection switch prevents heater fan from starting. Besides, in three minutes, the alarm buzzer sounds to call for warning.



Release explosion safely



In case an explosion occurs inside the test chamber, as shown in the above image, insulation material is bent and blown upward together with the aluminium plate to the metal screen at the top of the chamber.
This way the explosion is safely channeled and released through the top metal screen. For SPH(H)-402, explosion is released through the top metal screen by bending insulation material on the rear wall.

WARNING

1) The following flammables or materials containing them can be subjected to drying (heat treatment) with this chamber. However, to avoid explosion, ventilate the chamber well and use the chamber below the explosive limit.

Inflammables:

• Ignitable Substances
1. Ethyl ether, gasoline, acetaldehyde, propylene oxide, carbon disulfide, carbon dioxide and other substances with an ignition point of below −30℃ .
2. Normal hexane, ethylene oxide, acetone, benzene, methyl ethyl ketone and other substances with an ignition point above −30℃ and below 0℃ .
3. Methanol, ethanol, xylene, pentyl acetate amylacetate and other substances with an ignition point above 0℃ and below +30℃ .
4. Kerosene, light oil, turpentine oil, isopentyl alcohol (also called isoamyl alcohol), acetic acid and other substances with an ignition point above +30℃ and below +65℃ .

• Combustible Gases
Hydrogen, acetylene, ethylene, methance, ethane, propane, butane, and other combustible substances that are in a gaseous state at a temperature of +15℃ and at a pressure of 1 atmosphere.

2) Temperature chamber with explosion vent is fitted with a comprehensive range of devices to ensure safety. In addition to the regular inspection, these must be carefully inspected before reusing after an explosion.

3) This equipment is designed to prevent any damage to people or equipment in the vicinity for explosion pressures not exceeding 29.4kPa. If the explosion pressure exceeds 9.8kPa, reuse of the equipment itself may not be possible.

4) Please refer to the instruction manual before using the chamber to ensure safe operation.

SPECIFICATIONS

Model		SPH-102	SPH-202	SPH-302	SPH-402	SPHH-102	SPHH-202	SPHH-302	SPHH-402
System		Forced hot-air circulation / ventilation system							
Performance *1	Temperature range *2	Ambient temp. ＋20℃ (＋68°F) to ＋200℃ (＋392°F)				Ambient temp. ＋20℃ (＋68°F) to ＋300℃ (＋572°F)			
	Temperature fluctuation *2	±0.1°C at ＋100℃ (＋212°F) ±0.2°C at ＋200℃ (＋392°F)		±0.2℃ at ＋100℃ (＋212°F) ±0.4℃ at ＋200℃ (＋392°F)		±0.1℃ at ＋100℃ (＋212°F) ±0.2℃ at ＋200℃ (＋392°F) ±0.2℃ at ＋300℃ (＋572°F)		±0.2°C at ＋100℃ (＋212°F) ±0.4°C at ＋200℃ (＋392°F) ±0.6°C at ＋300℃ (＋572°F)	
	Temperature uniformity *2	±0.5°C at ＋100℃ (＋212°F) ±1.5°C at ＋200℃ (＋392°F)		±1.0℃ at ＋100℃ (＋212°F) ±2.0℃ at ＋200℃ (＋392°F)		±0.5℃ at ＋100℃ (＋212°F) ±1.5℃ at ＋200℃ (＋392°F) ±2.5℃ at ＋300℃ (＋572°F)		±1.0°C at ＋100℃ (＋212°F) ±2.0°C at ＋200℃ (＋392°F) ±3.0°C at ＋300℃ (＋572°F)	
	Temperature heat-up time	Ambient temp. to ＋200℃ (＋392°F) within 40 min.			within 60 min.	Ambient temp. to ＋300℃ (＋572°F) within 60 min.			within 70 min.
Construction	Exterior material	Cold rolled rust-proof steel plate, Melamine resin coating							
	Interior material	Stainless steel plate							
	Insulation material	Glass wool							
	Explosion vent	Safety vent to release inside pressure on explosion, Explosion exhaust duct, Protective wire mesh, Insulation, Outer plate							
	Heater	Stainless steel, Sheated heater with fin							
	Air circulator	Stainless steel propeller fan							
	Damper	Circulation/ Ventilation (manual switching)							
Fittings		Power cable (approx 2m from chamber), Specimen power supply control terminals (relay contact is opened/stop during malfunction. Voltage capacity 250V AC 3A).							
Inside dimensions W×H×Dmm (in)		450×450×450 (17.7×17.7×17.7)	600×600×600 (23.6×23.6×23.6)	800×800×800 (31.5×31.5×31.5)	1000×1000×1000 (39.4×39.4×39.4)	450×450×450 (17.7×17.7×17.7)	600×600×600 (23.6×23.6×23.6)	800×800×800 (31.5×31.5×31.5)	1000×1000×1000 (39.4×39.4×39.4)
Outside dimensions *3 W×H×Dmm (in)		1040×1260×635 (41×49.6×25)	1190×1370×785 (46.9×53.9×30.9)	1500×1715×1065 (59.1×68.1×41.9)	1730×1800×1775 (68.1×70.9×69.9)	1040×1260×635 (41×49.6×25)	1190×1370×785 (46.9×53.9×30.9)	1500×1715×1065 (59.1×68.1×41.9)	1730×1800×1775 (68.1×70.9×69.9)
Capacity (L)		91	216	512	1000	91	216	512	1000
Weight (kg)		95	130	270	500	95	130	270	500
Allowable ambient conditions		Temperature: 0 to ＋40℃ (＋32 to ＋104°F)　Humidity: to 75%rh							
Utility requirements	Power supply (Voltage fluctuation: ±10% of rated value)	200 / 220 / 230 / 240V AC 1φ 50/60Hz		200 / 220V AC 3φ 3W 50/60Hz, 380V AC 3φ 4W 50Hz		200 / 220 / 230 / 240V AC 1φ 50/60Hz		200 / 220V AC 3φ 3W 50/60Hz, 380V AC 3φ 4W 50Hz	
	Max. power consumption (kVA)	2.0	2.7	5.0	6.5	2.7	3.8	6.5	9.5

*1 Values assume circulatory operation with no specimens at an ambient temperature of ＋23℃ ±5.
*2 Conforms to Japan Testing Machinery standard K05:2000.
*3 Excluding protrusions.

ACCESSORIES

- Shelf (stainless steel wire for type 102･202) 2
  (stainless steel punched plate for type 302･402) 2
- Shelf bracket (stainless steel) .... 2 sets (4)
- Cartridge fuse 2
- Protective wire mesh 1
  (stainless steel mesh with soft aluminium foil)
- Insulation (glass wool) 3
- Outer plate (thin soft aluminium panel) 1
- Stand bracket and hexagon socket head cap screw .... 4 each
  (for type 102･202)
- Hexagon socket screw key (for type 102･202) 1
- User's manual .... 1 set

SAFETY DEVICES

- Leakage breaker
- Electrical compartment door switch
- Chamber door lock detection switch
- Explosion detection limit switch
- Thermal fuse
- Temperature switch for air circulator (except type 402)
- Air circulator overload relay (for type 402 only)
- Heater wiring breaker
- Reverse-prevention relay (for type 402 only)
- Upper and lower temperature limit alarm
  (built inside temperature controller)
- Overheat protector
- Cartridge fuse
- Specimen power supply control terminal

IPH(H)

+ 200℃ / + 300℃

ANAEROBIC TEMPERATURE CHAMBER



Low oxygen level testing

Equipped with a non-oxidizing gas intake structure which fills the chamber with non-oxidizing gas such as CO_2 or N_2 for heat treatment or temperature characteristics testing requiring low oxygen concentration atmosphere.

Hermetically sealed configuration

The chamber is hermetically sealed to decrease oxygen inside the chamber. The inner stainless steel plate is seamless welded with argon gas.

O_2 concentration indicator controller (optional)

An optional O_2 concentration indicator controller equipped with an oxygen sensor is available. It allows precise regulation of the O_2 level throughout the range 0.5 to 21% (using N_2).

SPECIFICATIONS

Model		IPH-202	IPHH-202
System		Forced hot-air circulation system	
Performance *1	Temp. range *2	Ambient temp. +20℃ (+68°F) to +200℃ (+392°F)	Ambient temp. +20℃ (+68°F) to +300℃ (+572°F)
	Temp. fluctuation *2	±0.1℃ at +100℃ (+212°F) ±0.2℃ at +200℃ (+392°F)	±0.1℃ at +100℃ (+212°F) ±0.2℃ at +200℃ (+392°F) ±0.2℃ at +300℃ (+572°F)
	Temp. uniformity *2	±0.5℃ at +100℃ (+212°F) ±1.5℃ at +200℃ (+392°F)	±0.1℃ at +100℃ (+212°F) ±0.2℃ at +200℃ (+392°F) ±0.2℃ at +300℃ (+572°F)
	Temp. heat-up time	Ambient temp. to +200℃ (+392°F) within 40min.	Ambient temp. to +300℃ (+572°F) within 60min.
Gas intake unit	Fluid	CO_2, N_2 gas (ordinary temperature, dry gas)	
	Fluid pressure	Allowed max. pressure: 2.0MPa (Gauge) (primary side of valve) Secondary side is adjusted with the valve to 0.05MPa (Gauge)	
	Flow rate	Max. flow rate: 20 L / min. (0.05MPa (Gauge), 20℃)	
	Chamber O_2 level	0.5% (lowest)	
	Chamber injector pressure	29Pa (Gauge) and over (at max flow rate)	
	Valve	1/4" brass needle valve	
	Pressure gauge	φ75mm embedded type class 2.5 Scale range: 0 ～ 0.1MPa (Gauge)	
	Flow meter	Floating type (provided with needle valve for flow rate control)	
	Scale range	0 to 30L / min. N_2 gas	
	Safety valve	Trip pressure: 2.0kPa (Gauge)	
	Gas inlet	1/4" ring joint	
Fittings		Power cable (approx 2m from chamber), Specimen power supply control terminal	
Inside dimensions (in)		W600mm×H600mm×D600mm (23.6×23.6×23.6)	
Outside dimensions (in) *3		W1190mm×H970mm×D785mm (46.9×38.2×30.9)	
Capacity (L)		216	
Weight (kg)		130	
Allowable ambient conditions		Temp.: 0 to +40℃ (+32 to +104°F) Humid.: to 75%rh	
Utility requirements	Power supply (±10% of rated value)	200 / 220 / 230 / 240V AC 1φ 50/60Hz	
	Max. power consumption	2.7 kVA	3.8 kVA

*1 Values assume circulatory operation with no specimens at an ambient temperature of +23℃ ±5.
*2 Conforms to Japan Testing Machinery standard K05:2000.
*3 Excluding protrusions.



ACCESSORIES

- Shelf (stainless steel wire) 2
- Shelf bracket (stainless steel) .... 2 sets (4)
- Cartridge fuse 2
- User's manual .... 1 set

SAFETY DEVICES

- Leakage breaker
- Electrical compartment door switch
- Thermal fuse
- Temperature switch for air circulator
- Heater wiring breaker
- Upper and lower temperature limit alarm (built inside temperature controller)
- Overheat protector
- Cartridge fuse
- Specimen power supply control terminal

GPH(H)

+200℃／+300℃

TEMPERATURE CHAMBER WITH ROTATING SPECIMEN RACK

Suitable for heat deterioration test

Based on the PH Temperature Chambers, these models incorporate a detachable rotating specimen rack and is especially designed for heat deterioration testing of rubbers and plastics including polyesters and vinyls.

Equipped with a rotating specimen rack

The rack drive unit is installed inside, enhancing function and lending them a simple appearance.
By removing the rack, this equipment may also be operated as an ordinary temperature chamber.





Test area

SPECIFICATIONS

Model		GPH–102	GPH–202	GPHH–102	GPHH–202
System		Forced hot-air circulation / ventilation system			
Performance *1	Temp.range *2	Ambient temp. +20℃ (+68°F) to +200℃ (+392°F)		Ambient temp. +20℃ (+68°F) to +300℃ (+572°F)	
	Temp. fluctuation *2	±0.1℃ at +100℃ (+212°F) ±0.2℃ at +200℃ (+392°F)		±0.1℃ at +100℃ (+212°F) ±0.2℃ at +200℃ (+392°F) ±0.2℃ at +300℃ (+572°F)	
	Temp.uniformity *2	±0.5℃ at +100℃ (+212°F) ±1.5℃ at +200℃ (+392°F)		±0.5℃ at +100℃ (+212°F) ±1.5℃ at +200℃ (+392°F) ±2.5℃ at +300℃ (+572°F)	
	Temp.heat-up time	Ambient temp. to +200℃ (+392°F) within 40min.		Ambient temp. to +300℃ (+572°F) within 60min.	
Specimen rack rotating unit	Number of racks	1	2	1	2
	Outside diameter	320mm (12.6in.)			
	Available numbers of specimens/weight	56pcs per rack (up to 0.7kg)			
	Specimen clip	50pcs per rack			
	RPM of specimen rack	5rpm/50Hz, 6rpm/60Hz			
	Motor	1φ 15W			
Viewing window	W×Hmm (in)	190×340(7.48×13.39)		———	
	Construction	Heat-resistant reinforced glass 3-plate sets		———	
Chamber lamp		5.5W incandescent lamp		———	
Fittings		Power cable (approx 2m from chamber), Specimen power supply control terminals (relay contact is opened during malfunction. Voltage capacity 250V AC 3A)			
Inside dimensions W×H×Dmm (in)		450×450×450 (17.7×17.7×17.7)	600×600×600 (23.6×23.6×23.6)	450×450×450 (17.7×17.7×17.7)	600×600×600 (23.6×23.6×23.6)
Outside dimensions *3 W×H×Dmm (in)		1040×820×635 (91×32.3×25)	1190×970×785 (46.9×38.2×30.9)	1040×820×635 (91×32.3×25)	1190×970×785 (46.9×38.2×30.9)
Capacity (L)		91	216	91	216
Weight (kg)		95	130	95	130
Allowable ambient conditions		Temp.: 0 to +40℃ (+32 to +104°F) Humid.: to 75%rh			
Utility requirements	Power supply (±10% of rated value)	200 / 220 / 230 / 240V AC 1φ 50/60Hz			
	Max. power consumption	2.0 kVA	2.7 kVA		3.8 kVA

*1 Values assume circulatory operation with no specimens at an ambient temperature of +23℃ ±5.
*2 Conforms to Japan Testing Machinery standard K05:2000.
*3 Excluding protrusions.

ACCESSORIES

- Shelf (stainless steel wire) 2
- Shelf bracket (stainless steel) .... 2 sets (4)
- Cartridge fuse 2
- Specimen clip type102 50
  type202 100
- Shaft insulation filters .... 1 set
- User's manual .... 1 set

SAFETY DEVICES

- Leakage breaker
- Electrical compartment door switch
- Thermal fuse
- Temperature switch for air circulator
- Heater wiring breaker
- Upper and lower temperature limit alarm (built inside temperature controller)
- Overheat protector
- Cartridge fuse
- Specimen power supply control terminal

OPTIONS

Option \ Model	PV / PVH				PH / PHH				STPH		SSPH		SPH / SPHH				IPH / IPHH	GPH / GPHH	
	212	222	232	332	102	202	302	402	102	202	102	202	102	202	302	402	202	102	202
Time run-out output	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Calendar timer	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Integrating hour meter	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Temperature recorder terminal	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Paperless recorder/ Temperature recorder	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Recorder wiring	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Automatic damper	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	—	●	●
Exhaust port flange	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	—	●	●
Exhaust duct	●	●	●	●	●	●	●	—	●	●	●	●	●	●	●	—	—	●	●
Energy Saver Duct	—	—	—	—	●	●	—	—	—	—	—	—	●	●	—	—	—	●	●
Nitrogen gas injector	●	●	●	●	●	●	●	●	●	●	●	●	—	—	●	●	—	—	—
Inert specification	—	—	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—
350°C Specification	—	—	—	—	— / ●	— / ●	— / ●	— / ●	—	—	—	—	—	— / ●	— / ●	—	—	—	—
O_2 concentration indicator-controller	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—
Air flow adjuster	●	●	●	●	●	●	●	●	—	—	—	—	—	—	—	—	●	●	●
Fin heater	—	—	—	—	●	●	●	●	—	—	—	—	※	※	※	※	●	●	●
Shelf and shelf bracket: 18-8 Cr-Ni stainless steel wire	●	●	●	—	●	●	—	—	●	●	●	●	●	●	—	—	●	●	●
Shelf and shelf bracket: 18-8 Cr-Ni punched stainless steel shelf	—	—	—	●	●	●	●	●	—	—	—	—	●	●	●	●	●	●	●
Mesh shelf	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heavy-duty shelf: Vertical type	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heavy-duty shelf: Horizontal type (25kg)	—	—	—	—	●	●	—	—	—	—	—	—	●	●	—	—	●	●	●
Heavy-duty shelf: Horizontal type (60kg)	—	—	—	—	—	●	●	—	—	—	—	—	—	●	●	—	●	—	●
Cable port	●	●	●	●	●	●	●	●	●	●	—	—	—	—	—	—	—	●	●
Cable port rubber plug	● / —	● / —	● / —	● / —	● / —	● / —	● / —	● / —	—	—	—	—	—	—	—	—	—	● / —	● / —
Casters	—	●	●	●	●	●	—	—	●	●	●	●	—	—	—	—	●	●	●
Viewing window	● / —	● / —	● / —	● / —	● / —	● / —	● / —	● / —	—	—	—	—	—	—	—	—	—	—	—
Chamber lamp	—	—	—	—	● / —	● / —	● / —	● / —	—	—	—	—	—	—	—	—	—	—	—
Anchoring fixtures	●	●	●	●	●	●	●	—	—	—	—	—	●	●	●	—	●	●	●
Floor reinforcement	—	—	—	—	—	●	●	●	—	—	—	—	—	●	●	●	●	—	●
Stand: Vertical type	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Stand: Horizontal type	—	—	—	—	●	●	●	—	●	●	●	●	●	●	●	—	●	●	●
Angle type stand	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	●	—	—	—
Casters for stand	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	●	●	●
Stacking brackets	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	●	—	—
L-type-stand and stacking brackets	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	●	—	—
External alarm terminal	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Emergency stop pushbutton	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Color specification	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Interface	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Power cable	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

※Standard specification

OPTIONS

Time run-out output

This option enables turning the power to the specimen ON or OFF with contact signal output when the time is up by using the timer function on the controller.
Power supply rating: 250VAC 1A
Actuation: Contact close when
program time overflows
Where located: Right side of chamber



Calendar timer

Automatically starts and stops chamber operation.
Setting range:
Sunday to Saturday
(Possible to set multiple days)
0:00 to 23:59
(Setting resolution 1 minute)
Margin of error per month: ±1 minute



Integrating hour meter

Displays cumulative chamber operation time.
Available with or without reset feature.

* Operating time is not accumulated when operation is stopped due to malfunction or for other reasons.

Measuring time: 999,999 hr



Temperature recorder terminal

Outputs chamber temperature through thermocouple type K (JIS C 1602)
(Thermocouple type N for STPH, SSPH)
Where located:
Rear of electrical compartment



Paperless recorder

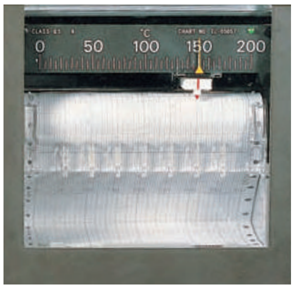
Records temperature of each section such as the temperature inside the chamber.
Temp. range: 0～＋200℃
0～＋300℃
0～＋600℃
0～＋800℃
Number of inputs: Temperture 1
(5 more channels can be turned ON)
Data saving cycle: 5 sec
External recording media:
CF memory card port
(Includes a 256MB CFcard)
Language support: ENG, JPN



Temperature recorder

Temp. range: 0 to ＋200℃
0 to ＋300℃
0 to ＋600℃
0 to ＋800℃
Recording system:
Pen recorder (1 pen)
or multi-point recorder (6 dots)

* If performing simultaneous installation of a recorder and an N_2 gas injector, they must be handled individually. Otherwise, installation may be limited depending on what other options are chosen.

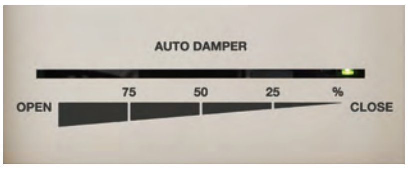


Temperature recorder wiring

Preparation of a power cable, temperature sensor and a grounding wire for additional installation in the future.

Automatic damper

Automatically opens or closes synchronously with program operation for ventilation and faster cooling of chamber temperature.



●Please refer to chart on p.17 for applicable models.

OPTIONS

Exhaust port flange

Flange connects an exhaust duct to the chamber to exhaust hot air from the chamber.
(for oven with damper.)

Material: Cold rolled steel plate with chromate conversion coatings
Stainless steel sheet (STPH-102, 202 SSPH-102, 202)

Dimensions: External diameter 87mm
Location: Chamber rear side

* When connecting to exhaust duct, the length of duct must be less than 4m.



Exhaust duct

Discharges hot air towards the ceiling.
(for oven with damper.)
Dimensions: External diameter 87mm
Location: Chamber rear side

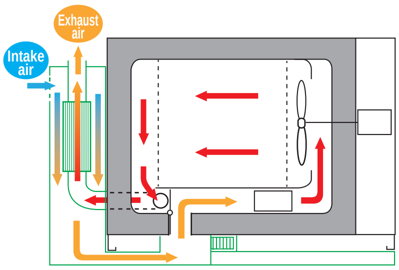
* Exhaust port flange is provided at end of exhaust duct.



Energy Saver Duct

Discharges exhaust air towards to ceiling with heat exchanger for energy saving by heat recycling.
Dimensions of exhaust port flange:
External diameter 87mm
Location: Chamber rear side

* The height of chamber will be 30mm higher than standard unit by the additional lower flame.



Nitrogen gas injector

Used for reducing specimen oxidation.
Fluid pressure: Max. allowable pressure 2.0MPa (Gauge) on primary side of valve 0.05MPa(Gauge)on secondary side using valve.
Max flow rate: 30 L min.
Flow meter: Float type flow meter

* If performing simultaneous installation of a recorder and an N_2 gas introducing unit, they must be handled individually. Otherwise, installation may be limited depending on what other options are chosen.



Inert specification

Used to minimize the oxidation of specimens.

* STPH only.
* Standard dampers are not fitted.

350℃ specification

Adapted to provide a maximum temperature of 350℃.

* PHH only.

O_2 concentration indicator-controller

Controls oxygen concentration inside the oven.
O_2 concentration range:
0.5 to 21% oxygen concentration (v/v)
Gas: N_2 gas
(ordinary temperature dry gas)

* IPH(H) only.



Air flow adjuster

Allows low air velocity in chamber

PV(H)	0.3 to 2.3m/s
PH(H)-102/202, GPH(H)-102/202, IPH(H)-202	0.2 to 2.3m/s
PH(H)-302	0.3 to 2.3m/s
PH(H)-402	0.3 to 2.6m/s

(Average wind velocity across chamber central longitudinal section. Represents the typical mean value for each chamber.)



Fin heater

Used when anti-corrosive is required.
Stainless steel sheathed heater with fins.



●Please refer to chart on p.17 for applicable models.

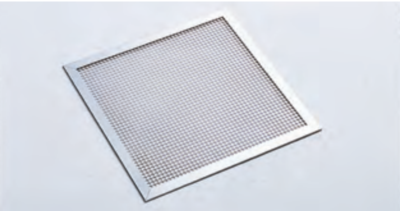
OPTIONS

Shelf and shelf bracket

Equivalent to standard accessory.
PH(H)-102/202, SPH(H)-102/202, GPH(H), and IPH(H) include stainless steel punched plate that differs from the standard shelf provided.



Stainless steel wire

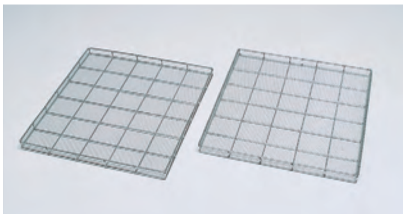


Stainless steel punched plate

Mesh shelf

For testing small specimens.
Material: 18-8 Cr-Ni stainless steel
ϕ0.8, 5 mesh

* To use, place this shelf on a standard shelf.



Model	Size	Shelf load resistance*
PV(H)-212 -222 -232	W550× D600× H35 mm	10kg
PV(H)-332	W740× D740× H38 mm	15kg

*Uniformly distributed load.

Heavy-duty shelf

Used to hold heavy specimen exceeding the load capacity of the standard shelf.



＜Vertical type＞
Material: 18-8 Cr-Ni stainless steel wire
Shelf support load resistance: Max 200kg

Model	Shelf load resistance*
PV(H)-212 -222 -232	45kg
PV(H)-332	90kg

*Uniformly distributed load

＜Horizontal type＞

For 25kg
Material: 18-8 Cr-Ni stainless steel wire
Shelf support load resistance: Max 50kg

* Equipped with 2 sets of shelf and shelf bracket.

For 60kg
Material: 18-8 Cr-Ni punched stainless steel
Shelf support load resistance: Max 200kg

* Standard shelves not provided.

Additional cable port

A through hole provided on the wall of chamber.
Material: Stainless steel plate
Inside diameter: 25, 50, 100mm
(ϕ50mm for STPH-102･202)

* The cable port may not be able to be used at the same time as the optional exhaust duct. (Except when used with PV(H))
* If several cable ports are installed, the surface temperature may rise or the chamber may not be able to meet standard performance.



＜Possible installation points＞

Model	Top	Rear	Left side	right side
PV(H)	×	×	○	○
PH(H)- 102･202･302	○	○	○	×
PH(H)-402	×	○	○	×
GPH(H)	×	○	○	×
STPH(H)	×	○	×	×

Cable port rubber plug

Prevents airleakage from the cable port.
Inside diameter: 25, 50, 100mm

* This rubber plug cannot be used when operating the chamber at +200℃ or higher.

Casters

Installed for mobility.
・Adjustable type (Height 92mm)
4 casters
4 leveling feet
・Non-adjustable type (Height 85mm)
2 casters with stoppers
2 fixed wheels

●Please refer to chart on p.17 for applicable models.

OPTIONS

Viewing window

Used for observation of the specimens inside the chamber.
Dimensions: W190 × L340 mm



Chamber lamp

Required when the door is fitted with viewing windows.
Location (incandescent light bulb):
PH-102, 202-Test area ceiling
PH-302, 402-Test area rear wall

Anchoring fixtures

Used to bolt the chamber to the floor.

Floor reinforcement

Used when testing load is larger than standard maximum load capacity.

* This option should be ordered together with the chamber.

Model	Floor load resistance*	Standard load resistance*
PH(H)-202 SaPH(H)-202 GPH(H)-202 IPH(H)-202	Up to 200kg	50kg
PH(H)-302 SPH(H)-302	Up to 300kg	60kg
PH(H)-402 SPH(H)-402		100kg

* Equally distributed load

Stand

Exterior: Cold rolled and rust-proof steel plate with melamine baked finish

＜Vertical type＞

Type	Top	Model
MV-23	300mm	PV(H)-212·222
MV-23C	321mm	
MV-26	600mm	PV(H)-212
MV-26C	621mm	

*Type C: Casters and leveling feet
*with door



MV-23C

＜Horizontal type＞

Type	Height	Model
L-1	140mm	PH(H)-102, GPH(H)-102
L-2		PH(H)-202, GPH(H)-202 IPH(H)-202
L-3	200mm	PH(H)-302, SPH(H)-302
M-1	365mm	PH(H)-102, GPH(H)-102
M-2	400mm	PH(H)-202, GPH(H)-202 IPH(H)-202
M-3		PH(H)-302, SPH(H)-302
MS-1		STPH-102, SSPH-102
MS-2		STPH-202, SSPH-202
H-1(D)	505mm	PH(H)-102, SPH(H)-102, GPH(H)-102
H-2(D)	540mm	PH(H)-202, SPH(H)-202, GPH(H)-202, IPH(H)-202
H-3(D)	585mm	PH(H)-302, SPH(H)-302

*Type(D): with door



From the side, L-2,
M-2 (casters are optional) and H-2

Angle type stand

Added to the chamber's original stand, this stand makes it easier to load and unload the specimen to the lower part of the test chamber.
Exterior: Equal-angle steel
Melamine baked finish

Type	Height	Model
L	150mm	PH(H)-402 SPH(H)-402
M	300mm	
H	450mm	

Casters for stand

Attached to the optional stand.
・Height adjustable (Height 92mm)
Free-turning wheel 4
Leveling feet 4

＜Horizontal type＞
L-1, L-2, M-1, M-2, H-1(D), H-2(D), MS-1, MS-2

Stacking brackets

When stacking two chambers, this plate couples the top and bottom chambers securely.

*Only the L model optional stand can be used when chambers are stacked.

L-type-stand and stacking brackets

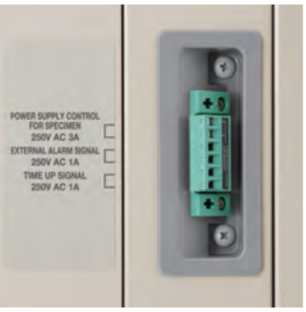
An L-type stand is fitted to the optional stacking brackets.

● Please refer to chart on p.17 for applicable models.
■ Some photographs listed in this catalog contain Japanese display.

OPTIONS

External alarm terminal

Used as a contact that relays an alarm to a remote point when one of the safety devices trips.
Output point: 1
Power supply: 250V AC 1A
Actuation: Signal generated when troubles occurs (contact closed)
Where located: Right side of chamber



Emergency stop pushbutton

Stops the chamber immediately.



Color specification

Chamber can be painted to any desired color.
Does not apply to:
- Door handle and handle cover
- Specimen power supply control terminal frame
- Instrumentation frame
- Operation panel
- Damper operation panel (including knob)
- Hinge cover
- Breaker cover

*Submit a color sample when specifying a color.

Interface

Communications ports to connect the chamber to a PC.
- RS-485
- GPIB
- RS-232C

Communication cables

- RS-485 5m/ 10m/ 30m
- RS-232C 1.5m/ 3m/ 6m
- GPIB 2m/ 4m

Power cable

- 5m
- 10m

⚠ Safety precautions

- Do not use specimens which are explosive or inflammable, or which contain such substances. To do so could be hazardous, as this may lead to fire or explosion.
- Periodical cleaning of the chamber and exhaust duct is required for it may cause combustion and fire when vapor of specimen is built up. Furthermore, an interior argon welding can be applied to the insulation layer of the chamber to minimize vapor penetration which may cause fire (except IPH(H)). For more information, please contact us.
- Be sure to read the operation manual before operation.

ESPEC CORP. http://www.espec.co.jp/english

Head Office
3-5-6, Tenjinbashi, Kita-ku, Osaka 530-8550, Japan
Tel : 81-6-6358-4741 Fax : 81-6-6358-5500

ESPEC NORTH AMERICA, INC.
Tel : 1-616-896-6100 Fax : 1-616-896-6150

ESPEC EUROPE GmbH
Tel : 49-89-1893-9630 Fax : 49-89-1893-96379

ESPEC ENVIRONMENTAL EQUIPMENT (SHANGHAI) CO., LTD.
Head Office
Tel : 86-21-51036677 Fax : 86-21-63372237
BEIJING Branch
Tel : 86-10-64627025 Fax : 86-10-64627036
TIANJIN Branch
Tel : 86-22-26210366 Fax : 86-22-26282186
GUANGZHOU Branch
Tel : 86-20-83317826 Fax : 86-20-83317825
SHENZHEN Branch
Tel : 86-755-83674422 Fax : 86-755-83674228
SUZHOU Branch
Tel : 86-512-68028890 Fax : 86-512-68028860

ESPEC TEST TECHNOLOGY (SHANGHAI) CO., LTD.
Tel : 86-21-68798008 Fax : 86-21-68798088

ESPEC SOUTH EAST ASIA SDN.BHD.
Tel : 60-3-8945-1377 Fax : 60-3-8945-1287

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- Specifications are subject to change without notice due to design improvements.
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